

FIG. 1 is a schematic diagram of an asymmetrically biased balanced power amplifier. The diagram shows an RF input (34) connected to a Lange Coupler (30). The Lange Coupler has two outputs: one connected to a Carrier Amplifier (22) and the other to a Peak Amplifier (24). The Carrier Amplifier (22) is a Class A amplifier (Q<sub>CLASS A</sub>) with a bias current I<sub>C1</sub>. The Peak Amplifier (24) is a Class B/C amplifier (Q<sub>CLASS B/C</sub>) with a bias current I<sub>C2</sub>. The output of the Carrier Amplifier (26) is connected to a Matching Network (26). The output of the Peak Amplifier (28) is connected to a Matching Network (28). The outputs of the Matching Networks (26) and (28) are connected to a λ/4 Transformer (30). The output of the λ/4 Transformer (30) is connected to an RF output (RF Out) through a matching network (MLin, Z<sub>0</sub>, Length).

# Asymmetrically Biased Balanced Power Amplifier

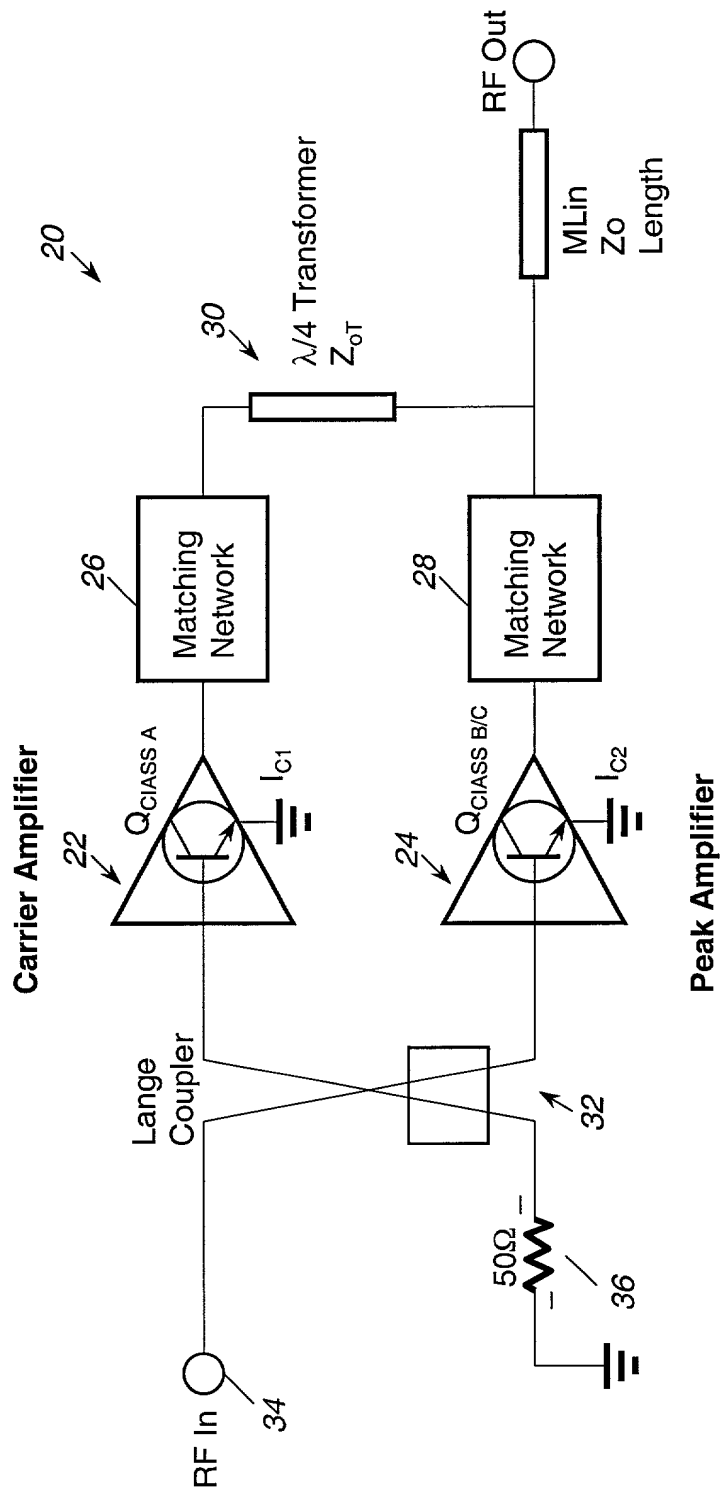
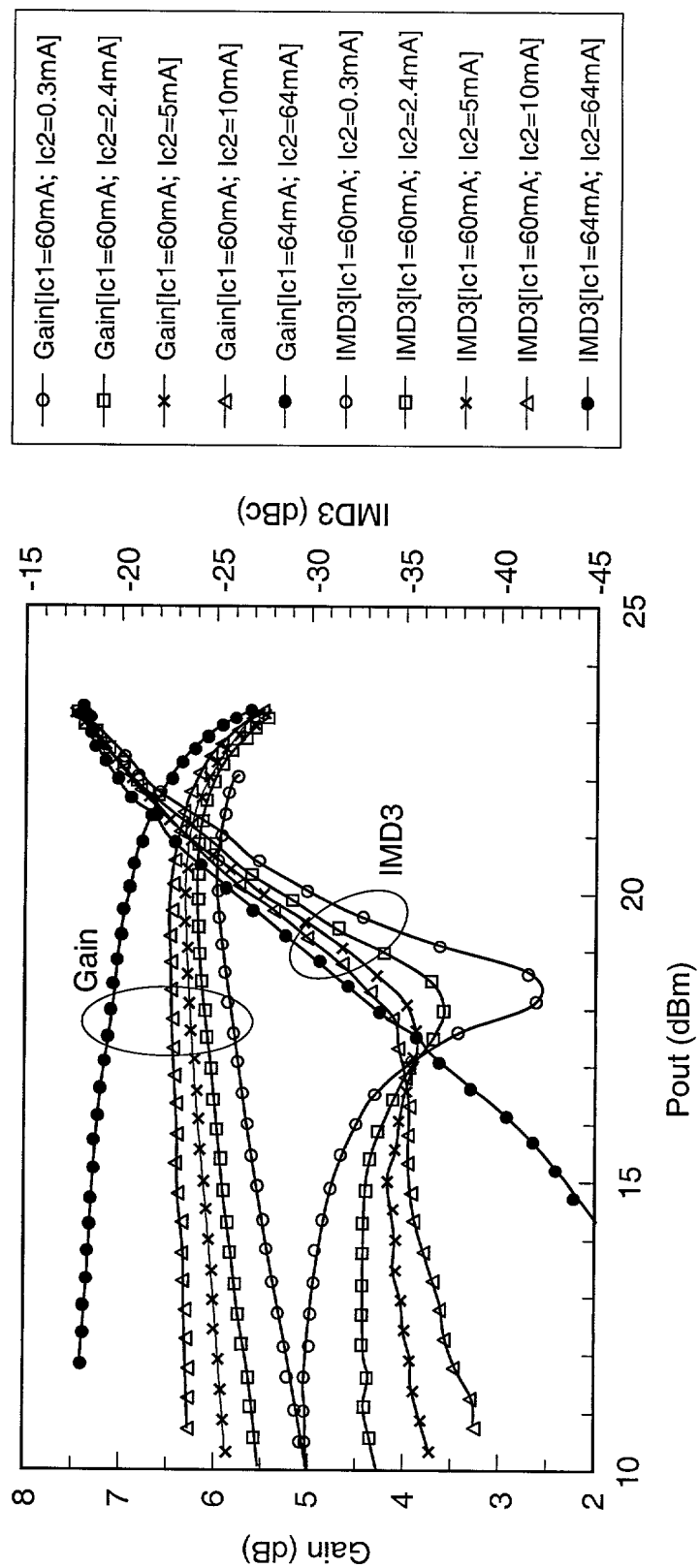


FIG. 1



**FIG. 2**

K-band InP DHBT Doherty Amplifier

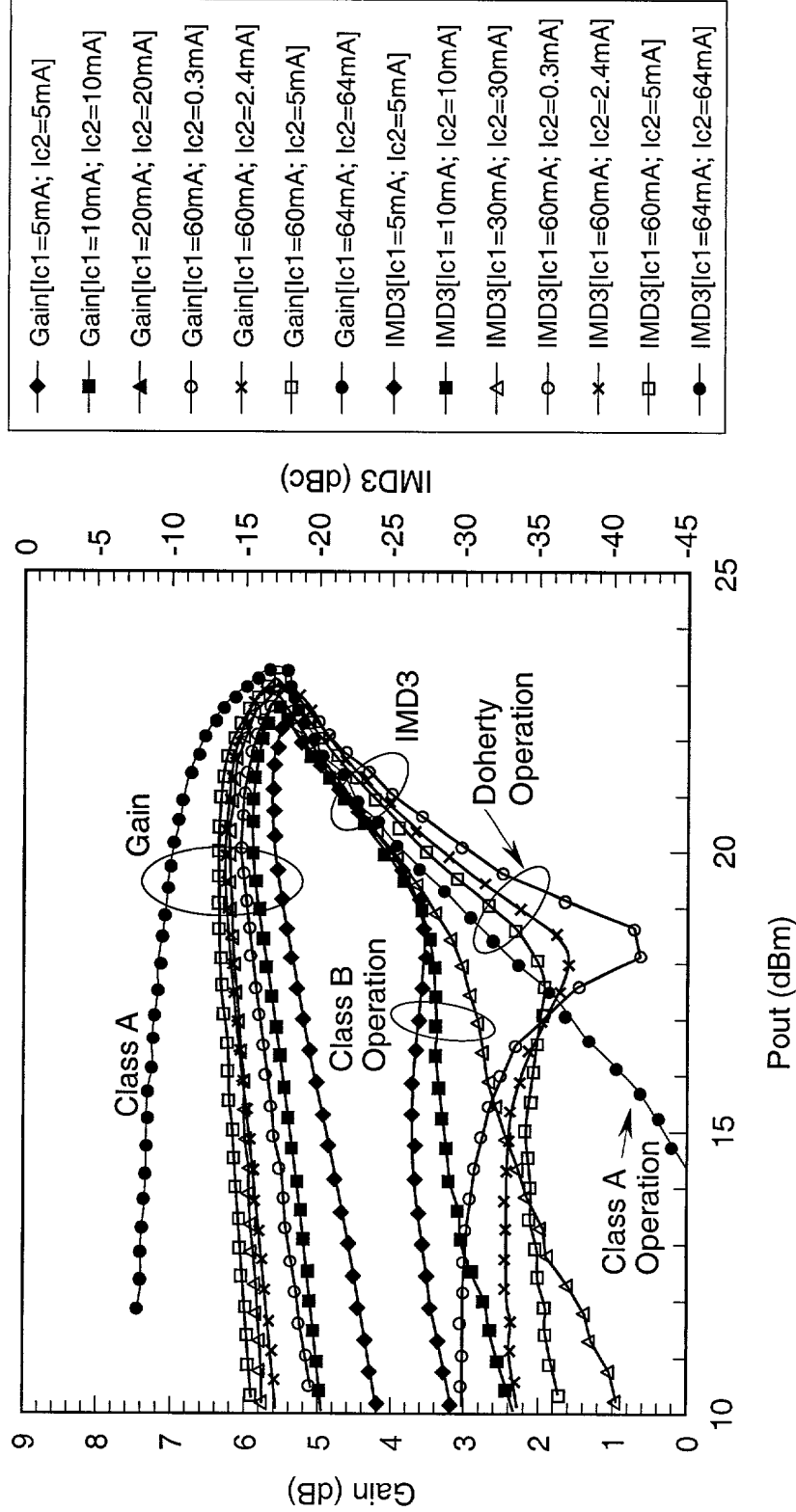
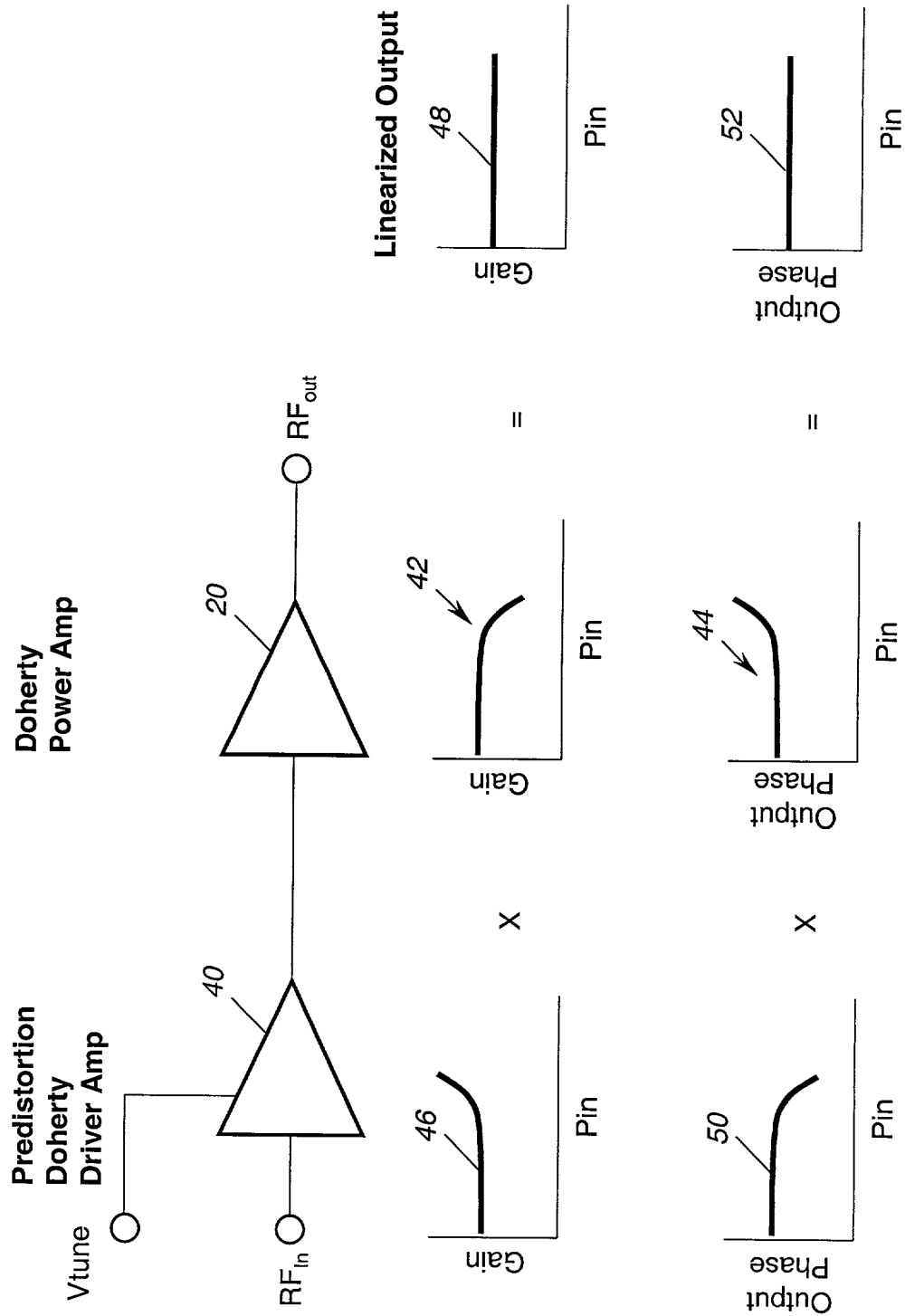


FIG. 3



**FIG. 4**

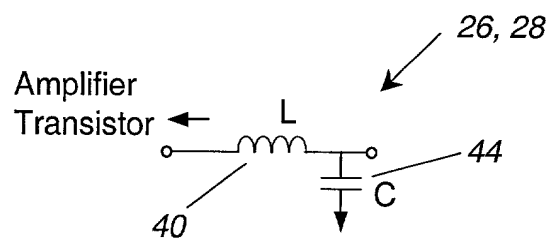


FIG. 5A

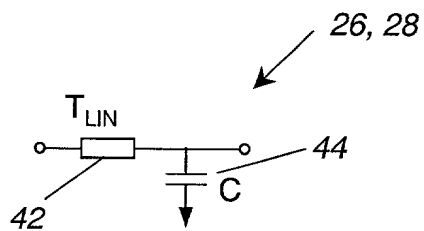


FIG. 5B

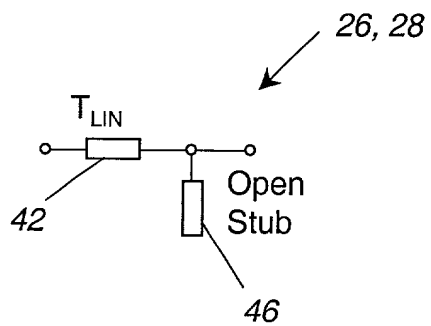


FIG. 5C

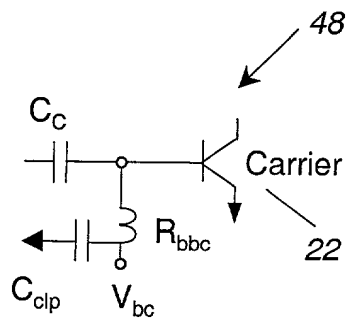


FIG. 6A

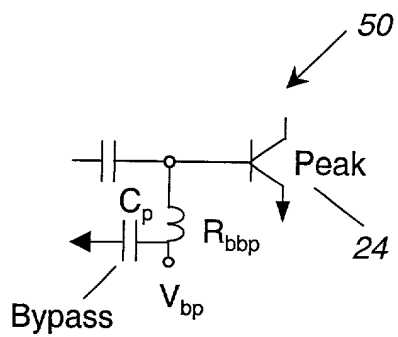


FIG. 6B